WHAT IS CLAIMED IS:

1. A variable-profile mirror comprising:

a flexible thin film having an optical reflective surface;

a frame member which supports said flexible thin film;

a substrate which is disposed opposite to said flexible thin film, and which is bonded to said frame member;

a pressure chamber which includes a space surrounded by said flexible thin film and said substrate, and in which said flexible thin film and said substrate form a portion of a wall;

a pump device which is disposed opposite to said pressure chamber via said substrate, and which is bonded to said substrate;

a first channel which extends through said substrate, and which connects said pressure chamber to said pump device; and

a second channel which connects said pump device to the outside,

wherein said pump device sucks or discharges fluid with respect to said pressure chamber through said first and second channels, and the profile of said flexible thin film may be varied.

2. The variable-profile mirror according to claim 1, wherein sectional areas of said first and second channels in a direction vertical to a flow direction of said fluid flowing through said first and second channels by operation of said

pump device are larger on a downstream side of said flow than on an upstream side, and

said pump device comprises:

a chamber connected to said first and second channels;

a diaphragm which also serves as a portion of the wall of said chamber; and

a vibration device which vibrates said diaphragm.

3. The variable-profile mirror according to claim 2, wherein a resonance frequency of the diaphragm of said pump device is higher than a resonance frequency of said flexible thin film.

4. The variable-profile mirror according to claim 1, further comprising: a plurality of said first and second channels; and a plurality of said pump device,

wherein at least one of said pump device is connected via said first channel in such a manner that said pressure chamber is pressurized, and connected to the outside via said second channel, and

at least one of the other pump device is connected via another one of said first channels in such a manner that the pressure of said pressure chamber is reduced, and connected to the outside via another one of said second channels.

5. The variable-profile mirror according to claim 1, wherein said substrate comprises single-crystal silicon, and said first and second channels are opened by anisotropic etching from different surfaces of said substrate.